Examining Teachers Attitude and Competence Towards Integration of Computer Technology in the Classroom

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Abstract—This study examined the teachers' attitudes and competence towards computer technology integration in selected schools of Iligan City Division for school year 2009-2010. Specifically it determined the extent of teachers' attitude towards computer technology integration. In addition, the study also determined the level of teachers' competence in terms of the following application tools: PC Basics; Word Processing; Spreadsheets; and Graphic Presentations. This study employed the descriptive-survey method. The respondents were the randomly selected 161 teachers of Iligan City Division. As to the gathering of data, a rating scale instrument on attitude and competence toward technology integration was used. Statistical tools used were frequency, percentage, and mean. From the data gathered it was found that teachers' encourage their students to use computers in their class tasks. It was also found that integrating computer technology in their lessons excite their students. In addition, it was also found that teachers never use various application softwares for their lesson. Moreover, as to teachers' competence in PC Basics it was found that teachers were fully capable of turning ON and OFF the computer and can open and close window or application. As to teachers' competence in word processing it was found that teachers were capable of using different ways of opening MS Word and can save and rename an MS Word file. As to the teachers' competence in utilizing spreadsheet it was found that teachers were fully capable of naming and saving a workbook; close a workbook and quit Excel. They were also capable of changing the orientation and scale of the worksheet; add and delete page breaks; set and clear print areas of the worksheets. As to teachers' competence in graphic presentation it was found that teachers were fully capable entering text in a slide pane and insert new slide. They were also fully capable in opening the power point application; create a presentation using design template; add text to a slide; adjust the position of the text object; change text alignment and spacing. From the findings the following were the recommendations: DepED Key Officials must hold in-service trainings, conferences and workshops that would address the need of teachers utilizing various application tools such as web 2.0 tools in the classroom; DepEd Administrators must invite education and IT specialists and experts to help train teachers effectively integrate computer technology in the classroom; Teachers must undergo continues education in the area of computer technology integration in the classroom. They must allow themselves to be equipped of technological skills to teach the 21st Century Learners; To increase the level of teachers' competence in different application tools such as PC Basics, Word Processing, Spreadsheets, and Graphic Presentations, latest issue of computer units must be provided to each school as possible through the efforts of the local government units, non-government organizations and the initiative of the DepED officials. By then, teachers can be trained in utilizing the different application tools at their nearest stations; and further studies on teachers' practices, attitudes toward ICT Integration, and teachers' competence in ICT should be undertaken to enhance the curriculum of the basic education.

Keywords- component; Education, Attitude, Competence, Computer Technology, Teachers

Introduction

In today's society computer technology has taken a front seat even in education. We are now in the information age, leaving behind the so called industrial age. This age is said to be the "Third Wave" of the

modern society. In this information age computer has become the revolutionizing force. It has been used in automobiles, home appliances, VCRs and video cameras, in our homes, financial institutions, health care facilities, research centers, politics, churches and even in our schools. The pervasiveness of computers in our schools has led the Department of Education to demand of computer professionals to train the public school teachers. According to Toffler (2001), machines that enhanced man's ability to do physical work were produced in the industrial age, but the computer is the first machine considered to be an extension of the mind. Computers not only change how professionals and leisure activities are done but how an individual becomes a model and think about the world we live in.

On the other hand, the growing attention on the use of computer technologies in education, its actual use in the classroom has not grown to the extent that many have predicted. This may be attributed to many reasons; the two main factors cited by Weisberg (1991) were lack of teacher's training and lack of equipment. It is this lack of training, however, that seems to stand out as a major impediment. Many teachers have shown that it is possible to accomplish great things with access to even a single computer, but an abundance of computers would only sit and waste away without teachers who know how to exploit them in their classrooms. Hence, the ICT Governance of the Department of Education compels teachers to learn ICT-aided modes of instruction in the classroom and must collaborate in the continuous planning and implementation of ICT programs (Deped Order No. 26, s. 2009). The intent of this paper is to determine the status of computer technology integration in the classroom. It will look into the condition as to the practices of teachers inside the classroom that will promote this integration, their attitude and their competence on computer technology.

Objectives of the Study

1. Describe the extent of teacher's attitude towards integration of computer technology
2. Determine the level of teachers' competence in terms of the following application tools: PC Basics; Word Processing; Spreadsheets; and Graphic Presentations.
3. Identify teacher development program in the integration of computer technology in the classroom

Methodology

This study described the extent of teacher's attitude towards integration of computer technology. It also determined the level of teachers' competence in terms of PC Basics, Word Processing, Spreadsheets, and Graphic Presentation. The researcher employed the descriptive-survey method.

This study was administered in the division of Iligan City, school year 2009-2010. The Division of Iligan City has thirteen (13) central schools. However, only these schools with ICT equipments were considered in this study. Therefore, the respondents were the teachers of only five (5) schools. These schools were City Central School, Northeast I-A CS, North I CS, Iligan City East CS, South I – A CS. Moreover, from the 270 teachers only 161 were selected as sample population. This was determined using Slovin's formula, proportional random sampling, and fishbowl technique.

Results and discussions

The following were the findings arranged according to Objectives of the study.

Table 1 presents the teacher's attitude towards integration of computer technology. As shown, the indicator that obtained the highest rank was "I encourage my students to use computers in their class task" with a mean score of 4.32. This means that teachers always allow the students to make use of computer technology to accomplish their classroom activities. This can also be supported by next highest indicator which was, "Integrating computer technology in my lessons excite my students" with a mean score of 4.20. This describes why teachers encourage their students to utilize computer teacher in the classroom.

Meanwhile, the indicator that obtained the lowest rank was "I use various application software for my lesson" with a mean score of 1.12. This means that teachers never used other application softwares other than the basics. It also implies that teachers did not expose their students to the various web 2.0 tools that can enhance classroom instructions.

Teachers' Attitude towards Computer Technology Integration

Indicators	Mean	Description	Ranks
I encourage my students to use computers in their class tasks	4.32	A	1
I Integrate computer technology in my lessons to excite my students	4.20	U	2
I like use computer for my daily routine task	4.18	U	3
I allow my students to manipulate on a computer	4.12	U	4
I want to learn a lot of ways to use computers in my class	3.57	U	5
I like provide lessons to my students that involves computer work	3.39	S	6
I like to use computer as tool for internet classroom	3.17	S	7
Figuring out computer problems does not appeal to me	2.80	S	8
I like to use computer in my daily class activities	2.68	S	9
Teaching with computers is boring to me	2.30	R	10
Integrating computer technology intimidate and threaten me	1.96	R	11
I get a sinking feeling when I think of trying to use a computer	1.82	R	12
Working with a computer makes me feel tense and uncomfortable	1.75	N	13
Using computers in my class activities frustrate my students	1.71	N	14
I like to use various application softwares for my lesson	1.12	N	15
	2.87	S	

Legend:

(1)	1.00-1.80	strongly disagree	(SD)	Never
(2)	1.81-2.60	disagree	(D)	Rarely
(3)	2.61-3.40	undecided	(U)	Sometimes
(4)	3.41-4.20	agree	(A)	Usually
(5)	4.21-5.00	strongly agree	(SA)	Always

Table 2 shows the level of teachers' comptence towards PC Basics. As depicted from the table, the indicator that obtained the highest rank with a mean score of 4.92 was "Turn the computer ON and OFF correctly". This means that teachers are fully capable of performing the proper shut dowm of the computer. The next higher indicator with a mean score of 4.59 was "Open and Close window or application". This suggests that teachers are fully capable of opening and closing the window or computer applications. Moreover, the indicator that obtained the lowest rank with a mean score of 2.76 was "Use the search command in looking and locating files or folders". This means that teachers are moderately capable of performing the search command for finding files and folders in the computer.

Table 2: Level of teachers' competence in terms of the PC Basics

I. INDICATORS	Mean	Description	Ranks
Turn the computer ON and OFF correctly	4.92	FC	1
Open and close window or application	4.59	FC	2
Perform the different mouse operations such as left, right and double clicking and dragging	4.32	FC	3

Arrange icon on the desktop	3.56	C	4
Use the search command in looking and locating files or folders	2.76	MC	5
II. TOTAL	4.03	C	

Legend

1	1.00-1.80	Not capable (**NC**)
2	1.81-2.60	Barely capable (**BC**)
3	2.61-3.40	Moderately capable (**MC**)
4	3.41-4.20	Capable (**C**)
5	4.21-5.00	Fully capable (**FC**)

Table 3 presents the level of teachers' comptetnce in terms of the word processing. As shown, the indicator that obtained the highest rank with a mean score of 4.04 was "use the different ways of opening MS Word". This means that teachers were capable opening word processing using various ways. On the other hand the lowest indicator as indicated by its obtained mean score of 2.61 was "Use the formatting tool bar in applying character effect to text, cutting and pasting text; Use the drag and drop feature to edit text". This means that teachers were moderately capable in editing and applying character effect to text such as cutting, pasting, or changing text color.

Table 3: Level of teachers' competence in terms of the Word Processing

I. INDICATORS	Mean	Description	Ranks
Use the different ways of opening MS Word	4.04	C	1
II. SAVE A MS WORD FILE, RENAME A MS WORD FILE	[illegible]	C	2
Use the Print Dialog Box and Print Button in printing a document	3.78	C	3
III. ADJUST THE PAGE MARGIN SETTINGS, SET THE PARAGRAPH NUMBER, CREATE AND CUSTOMIZE	3.32	MC	4
CREATE COLUMNS WITH EQUAL AND UNEQUAL WIDTHS; INSERT AND DELETE MANUAL COLUMN BREAK	3.28	MC	5
V. USE THE WORD TEMPLATE AND THE WIZARD TO CREATE A DOCUMENT	3.28	MC	6
VI. INSERT PICTURES FROM MS GALLERY AND FROM FILES; USE THE FORMATTING TOOL BAR IN THE FORMATTING THE OBJECTS	3.09	MC	7
VII. USE THE FIND AND REPLACE TEXT FEATURE; INSERT SPECIAL CHARACTERS IN THE DOCUMENTS	2.77	MC	8
VIII. PERFORM EDITING TASK SUCH AS SELECTING, DELETING, RESTORING, AND INSERTING TEXT	2.68	MC	9
IX. USE THE FORMATTING TOOL BAR IN APPLYING CHARACTER EFFECT TO TEXT, CUTTING AND PASTING TEXT; USE THE DRAG AND DROP FEATURE TO EDIT TEXT	2.61	MC	10
X. TOTAL	3.28	MC	

Legend

1	1.00-1.80	Not capable (**NC**)
2	1.81-2.60	Barely capable (**BC**)
3	2.61-3.40	Moderately capable (**MC**)
4	3.41-4.20	Capable (**C**)
5	4.21-5.00	Fully capable (**FC**)

Table 4 depicts the level of teachers' competence in terms of spreadsheet. As shown, the highest rank indicator with a mean score of 4.55 was "name and save a workbook; close a workbook and quit Excel". This means that teachers were fully capable in naming, saving and closing a spreadsheet. Meanwhile, the lowest rank indicator with a mean score of 2.76 was "Create and edit hyperlinks in worksheets". This describes that teachers were moderately capable in using hyperlinks in their worksheets.

Table 4: Level of teachers' competence in terms of the Spreadsheet

I. Indicators	Mean	Description	Ranks
Name and save a workbook; close a workbook and quit Excel	4.55	FC	1
II. Change the orientation and scale of the worksheet; Add and delete page breaks; Set and clear print areas of the worksheets	3.60	C	2
III. Build, copy and edit formulas; Use number series and autofill; Use relative and absolute cell references	3.43	C	3
Open MS Excel application; Enter, numbers and dates in worksheet	3.40	MC	4.5
IV. Select and edit cell contents; Rename worksheets; Move between worksheets	3.40	MC	4.5
V. Navigate between worksheets in a workbook; Link workbooks	3.34	MC	6
VI. Use the chart wizard in creating chart; Move, resize and delete charts; Format charts	3.17	MC	7
VII. Save workbook and worksheets as webpages; Send workbook via e-mail	2.98	MC	8
VIII. Hide and unhide rows and columns; Freeze and unfreeze rows and columns	2.93	MC	9
IX. Create and edit hyperlinks in worksheets	2.76	MC	10
X. Total	3.36	MC	

Legend

1	1.00-1.80	Not capable (**NC**)
2	1.81-2.60	Barely capable (**BC**)
3	2.61-3.40	Moderately capable (**MC**)
4	3.41-4.20	Capable (**C**)
5	4.21-5.00	Fully capable (**FC**)

Table 5 presents the teachers' competence in graphic presentation. As depicted from the table, the indicator that obtained the highest rank with a mean score of 4.65 was "Enter text in a slide pane and insert new slide". This means that teachers were fully capable in preparing the basic slide presentation. They can easily enter text in a slide and insert new slide for their graphic presentation. As to the lowest rank indicator which obtained a mean score of 2.07 was "Create a web presentation with the auto content wizard". This means that teachers were barely capable in using auto content wizard for web presentation.

Table 5: Level of teachers' competence in terms of the Graphic Presentation

I. INDICATORS	Mean	Description	Ranks
Enter text in a slide pane and insert new slide	4.65	FC	1
Open the PowerPoint application; Create a presentation using design template	4.58	FC	2
Add text to a slide; Adjust the position of text object; Change text alignment and spacing	4.25	FC	3
II. SET SLIDE TRANSITION; ANIMATE TEXT AND OBJECT SLIDES	3.47	C	4
III. PREVIEW A PRESENTATION WITH THE AUTO CONTENT WIZARD	3.39	MC	5
IV. SAVE AND PUBLISH A PRESENTATION AS WEBPAGE	3.30	MC	6
V. SEND A PRESENTATION VIA-EMAIL	3.17	MC	7
VI. INSERT SOUND AND MOVIES IN THE PRESENTATION	2.72	MC	8
VII. APPLY THE DESIGN TEMPLATES; USE THE SLIDE MASTER IN CHANGING THE DISPLAY; SAVE A PRESENTATION AS A TEMPLATE	2.66	MC	9
VIII. CREATE A WEB PRESENTATION WITH THE AUTO CONTENT WIZARD	2.07	BC	10
IX. TOTAL	3.43	C	

Legend

1	1.00-1.80	Not capable (**NC**)
2	1.81-2.60	Barely capable (**BC**)
3	2.61-3.40	Moderately capable (**MC**)
4	3.41-4.20	Capable (**C**)
5	4.21-5.00	Fully capable (**FC**)

Table 6 shows the summary table of teachers' competence towards PC Basics, Word Processing, Spreadsheet, and Graphic Presentation. The table indicates that the PC Basics rank the highest as shown by its mean score of 4.03 and this was followed by Graphic Presentation with a mean score of 3.43. The result shows that teachers were capable in performing PC Basics and Graphic Presentation. This implies that teachers were often integrating graphic presentation in their lessons. Thus, they often use basic functions of the PC.

Table 6: Summary Table on Teachers' Competence towards PC Basic, Word Processing, Spreadsheet, and Graphic Presentation

I. INDICATORS	Mean	Description	Ranks
PC Basics	4.03	C	1
II. GRAPHIC PRESENTATION	3.43	C	2
Spreadsheet	3.36	MC	3
III. WORD PROCESSING	3.28	MC	4
IV. TOTAL	3.53	C	

Legend

1	1.00-1.80	Not capable (**NC**)
2	1.81-2.60	Barely capable (**BC**)
3	2.61-3.40	Moderately capable (**MC**)
4	3.41-4.20	Capable (**C**)
5	4.21-5.00	Fully capable (**FC**)

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